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ABSTRACT

All indicators appear to point to a continuing and increased public interest in zero-based budgeting (ZBB). Despite its present popularity, ZBB is not new. The theory has been around for more than a decade and it draws heavily on existing systems, particularly on planning, programming, and budgeting systems. ZBB has two phases. The first is the planning phase, which includes four elements--information systems, program structure, evaluations systems, and costing systems. The second phase is the analysis of decision packages. The decision packages are presented to successively higher management levels. These documents usually contain a statement of need and related performance objectives, and the identification of current costs for activities to be carried out. The inclusion of a number of different decision alternatives gives top management choices between different levels of benefits and costs. Because of its complexity, ZBB seems most suitable for use every three to five years, rather than every year. Further, it seems most useful for discretionary programs rather than in areas with fixed costs. Business and government organizations that have used ZBB are not in agreement as to its advantages compared to traditional systems. (Author/IRT)

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THE ZERO-BASE BUDGET: A NEW MANAGEMENT TOOL

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THE ZERO-BASE BUDGET: A NEW MANAGEMENT TOOL

Zero-base budgeting (ZBB) is being touted as a powerful new approach to improve budget planning and decision making. Advocates argue that it has great potential for controlling cost, improving management's understanding, and making the decision process more rational. Zero-base budgeting stresses that expenditures must be justified from "scratch" or from the "ground up," thus overcoming the incrementalism of many existing systems. Proponents of ZBB argue that it overcomes the shortcomings of other systems, while opponents emphasize that the increased staff time and paper work do not produce commensurate benefits.

President Carter promised during the 1976 presidential campaign that if elected he would institute zero-base budgeting in the federal government. The notice published in the *Federal Register* (March 11, 1977) appears to be a first step in fulfilling that promise. The *Register* gave notice to the public that the Office of Management and Budget (OMB) would use ZBB to determine the fate of many national advisory committees and commissions. Officials of OMB have stated that present committees and commissions must "demonstrate a compelling need for their continued existence" in order to survive.

The United States Congress has also expressed an interest in ZBB along with "sunset" legislation. During the 94th Congress, legislation was introduced in the U.S. Senate which proposed to require the use of zero-base budgeting methods to evaluate programs to a) identify original program objectives and the degree to which they have been achieved, b) show performance and accomplishments for the past four years, c) identify the number of persons employed and administrative costs, d) identify the impact on the national economy, e) evaluate the degree to which regulations relate to the original objectives, f) provide evidence of the evaluation of program effectiveness, and g) analyze the services and benefits of the program *if* it were to be continued at various funding levels.

All indicators appear to point to a continuing and increased public interest in zero-base budgeting. This brief bulletin explores some of the concepts of what may become the next experience in public budgeting.

Background

A review of the literature on zero-base budgeting indicates the theory has been around for more than a decade. As early as 1962, the U.S. Department of Agriculture explored the use of ZBB principles to improve their budgeting practices.[1] Business and industry have also used the process with mixed results.[2] At the present time, approximately eight states have adopted ZBB and an equal number may be seriously considering its merits.[3] Peter Pyhrr's article in the *Harvard Business Review* which drew on his experience with ZBB at Texas Instruments, Inc. is generally credited with giving ZBB national awareness.[4]

Business and government organizations that have used zero-base budgeting are not in agreement as to its advantages compared to traditional systems. However, its reported usefulness in analyzing ineffective operations and cost savings gives it popular political strength which tends to counter negative reports.

A general review of the literature leads one to conclude that there is little about ZBB that is new and that it draws heavily upon existing systems, especially planning, programming, and budgeting systems (PPBS). Many existing systems are top-down budgeting processes in which top management establishes the constraints and subordinate levels of management submit their requests for consideration and approval. Critics of existing systems state that such processes frequently use the current budgeted levels as a floor, and future budgets become incremental increases from the current base without serious thought for high-priority needs. Zero-base budgeting, on the other hand, usually uses a bottom-up procedure by which managers at the lowest cost center who spend or use resources justify their request from zero dollars. Each activity is considered in terms of its own merit or on the benefits provided in relation to highest priority current needs. Reportedly, this kind of analysis and justification prevents expenditure incrementation after the need for programs or services has passed.

Analytic processes are at the heart of zero-base budgeting. The results or output are successively presented to higher management levels in the form of something commonly called *decision packages*. These documents usually contain a statement of need and related performance objectives and the identification of current costs for activities to be carried out. The inclusion of a number of different decision alternatives gives top managers choices between different levels of benefits and costs. The alternatives of

each decision package are prioritized and ranked, usually in terms of the level of benefits to be provided. Thus, top management receives from cost center and middle management a variety of cost and benefit alternatives from which it selects the alternatives to be included in the final budget.

The preceding explanation sounds deceptively simple. In practice, ZBB is more than an elementary analysis and justification of costs to top management. It must be emphasized that the analysis referred to included both the evaluation of past operations as well as predicting what is likely to happen in the future under different proposals. Also frequently overlooked or underemphasized is the fact that a substantial planning effort is required *before* decision package analysis and development begins. The preliminary planning phase must identify a unifying framework of program goals and objectives which spell out the fundamental reasons for an organization or agency's existence and the ends or outcomes which are to be attained. Without this unifying framework, decision packages are likely to reflect a hodgepodge of activities which allow important elements to be overlooked.

It is also important to note that ZBB is generally conceded to be most effective in activities and expenditures which are discretionary, not required by provisions of law or basic to continuing operations. For example, at the state level the legislature may mandate the establishment and operation of correctional institutions. The fixed costs to operate such institutions are not likely to be discretionary. However, costs for food services, recreation, rehabilitation, prison industries, or educational programs are open to discretionary options. It is in such areas that alternative benefits and cost decision packages can be prepared to provide substantive action choices to management.

As a result of the intermix of nondiscretionary and discretionary activities, many ZBB applications do not take budget costs all the way to zero dollars. Rather, some floor (usually based on current costs) is established as a minimum level, and incremental packages of benefits and costs (decision packages) are prepared from that base.

Planning, evaluating, analyzing, costing, and *priority setting* obviously require vast amounts of high quality information. No decision is any better than the facts which support it or the reasonable probability that things are likely to happen as predicted. Unless management commits the necessary resources to collect data about needs and performance, ZBB is likely to fall short of its full potential. All of these things require more staff time and are

likely to lead to substantial increases in paper work—a result which may be warmly welcomed by bureaucracies or the public.

In part, an answer to the time and paper work burden in ZBB systems is provided by limiting decision packages to a moderate size. For example, at least one full-time equivalent employee or a minimum dollar expenditure may be established as a criterion for any one decision item. The volume of decision item packages can also be held down by limiting the total number of pages for each decision package. Finally, an agency may choose to use ZBB less frequently, such as every fifth year rather than annually, to cut down on workload impact. There is likely to be considerable merit for government in the latter case since its services and social needs usually change more slowly than events in the private sector. For this reason, annual cycles may produce only marginal benefits, and these may not offset increased frustration of cost center managers and poor quality analysis.

ZBB Systems

Zero-base budgeting is based upon a rigorous analysis of existing operations in relation to needs. Alternative ways (decision packages) are developed to meet these needs based upon expected outcomes. These packages are ranked to provide choices to managers in the preparation of the total budget. The burden of responsibility and proof is placed on each manager to justify why money should be spent.

While the emphasis may be on the budget development process (i.e., analysis and decision packages), these functions will be only as good as the quality of work (planning) which precedes them and the follow-up coordination and evaluation of activities during the implementation phase of the budget plan. Zero-base budgeting should not be considered a short, once-a-year or biennial process since its success is dependent upon a continuous process of planning, analyzing, budgeting, coordinating, and evaluating by management. Following are what I consider to be the fundamental phases of zero-base budgeting.

The Planning Phase

Prior to the creation of decision packages, an evaluation of the current year's activities must be undertaken, program goals and objectives reexamined and affirmed for the next cycle, and modifications of the

present information and pricing or costing systems approved. Operating elements needed for the planning activities are:

1. *Information Systems*

   It must be emphasized that quality information is an essential ingredient for sound analysis and decision making. The system must provide data about *needs, means,* and *populations served,* identify performance characteristics of current budget activities, collect data for the evaluation of both means and outcomes, and monitor characteristics which indicate changes in status or conditions. Decision package analysis not only evaluates current performance but must also be predictive as to what will happen in the future under different alternatives.

2. *Program Structure*

   It is important that the total scope and responsibility of an agency be established to define the limits of the work to be accomplished. Program structures with accompanying goals and objectives are an effective way to insure consideration of all efforts that must be taken to prevent important elements from slipping through organizational cracks. They provide a way for aggregating costs of decision packages as well as enhancing public and legislative understanding of budget elements. They are also useful as a check on an agency's activities against the primary legislative or executive authorization for its existence.

   Some advocates of ZBB do not appear to emphasize program structures as essential components. However, in the government and public service sectors, it would seem they can establish the necessary framework to coordinate activities between agencies and avoid duplication of efforts and costs.

3. *Evaluation Systems*

   The evaluation of performance against predicted targets and costs is an essential part of ZBB and is a part of each decision alternative and package. Evaluation also needs to address the question of how well total budget goals and objectives are being achieved and emphasize benefits in relation to needs and costs. It is essential that an

organization or agency have the capability to carry out and provide adequate technical assistance to individual program or activity managers to fulfill their responsibilities in this regard.

4. *Costing Systems*

Analysis and evaluation of alternatives demand that they use comparable data. It is the familiar "apples and oranges" issue. The common denominator among alternatives is dollars, and it is essential that a uniform cost structure be designed so costs of different alternatives and organizational or agency requests can be judged fairly. Costing structures usually include traditional line object types of expenditures such as personal services, contract services, materials and expenses, capital facilities and equipment, data processing, utilities, and travel. Complex cost-benefit analysis systems may include costs other than dollars. However, it appears such dimensions can be accommodated as problems or benefits not attainable in decision package information.

Decision Package Analysis

The breaking down and analysis of current operations at the *lowest cost center* is at the heart of ZBB. This characteristic gives it the bottom-up rather than top-down label. Once operations of each cost center are broken down and past performance and effectiveness are established, each manager must analyze what activities are needed, determine the minimum priorities that must be met, and prepare incremental packages of alternatives which can be evaluated by top management in the decision processes that follow. Each cost center manager organizes, prioritizes (ranks), and recommends alternatives (decision packages) to superiors for action. Such information is prepared on approved forms, reports, or displays to concisely present essential objectives, impact, benefits, problems, and costs. It usually includes some or all of the following elements:

- A brief description of the major objective (s).
- Identification of performance or impact information in relation to objectives.
- Adoption of a uniform classification of decision alternative criteria.
- The cost impact of the current and proposed fiscal years.
- Identification of available revenue sources.

Figure 1 is an illustration of the type of form which could be used to display decision package information for use by successive levels of management. This provides only concise summary-type information from source documents which provide the background, information, and analyses in greater detail if needed or desired. Each individual alternative requires the completion of a separate form, ranked as to priority, and constitutes the working documents for a single decision package. The decision packages are submitted to superiors where each management level reviews *all* the data, approves or changes the priorities in each package, and sends it up to the next management level.

The flow of work and decision making is shown in Figure 2. Note that top management provides the approved program structures and the related goals and objectives. The cost center managers perform the basic analyses and create the decision packages, and top management finally approves the priorities and activities included in each package in the final budget.

Figure 3 illustrates a form which can be used to summarize all recommendations to the agency head. From it, the current year's budgeted amount, nondiscretionary costs, and incremental alternatives are priced out and identified.

It should be evident that one of the strengths of the ZBB decision package analysis is to weed out activities which provide only marginal benefits or which can be deferred without serious consequences. Little has been said about criteria and processes to identify priorities. Decision making is not solely an objective analytic process. It also has social and political dimensions which may muddy objective waters. Therefore, priority setting and ranking largely depend upon judgment calls by management.

Assuming that the final budget is subsequently approved and funded by appropriate legislative bodies, it becomes top management's responsibility to coordinate the approved fiscal year's activities. It should be emphasized that no amount of objective analysis is useful if top management is unable or unwilling to make decisions necessary for successful implementation of the budget plan to achieve specified goals and objectives. The decision processes in ZBB are more than just attaining a total or final listing of activities and costs. ZBB also carries with it the responsibility to assign work, make organizational changes, and coordinate policy administration to make the selected alternatives work.

FIGURE 1

Illustration of a Decision Alternative Form for Discretionary Fund Allocation

Decision Item – _____* Objective Level

Department	Program	Subprogram	Activity	Priority Code

Description of Major Objective(s)

Description of Current ( ) Fiscal Year Performance Objective(s)

Description of Proposed ( ) Fiscal Year Objective(s)

Description of Proposed ( ) Fiscal Year Objective(s) Performance or Impact

Explain Major Cost Implications of Proposed Objective Level

Explain Major Benefits and Problems of Proposed Objective Level

Costs		
Expenditure Category	Current FY Objective Level	Proposed FY Objective Level
Salaries & Fringe		
Materials & Supplies		
Repairs & Maintenance		
Contract Services		
Facilities Rentals		
Data Processing		
Utilities		
Capital Equipment		
Debt Retirement		
Other_____		
Local Assistance		
Aids to Individuals		
Other_____		
Total Expenditures		

Revenues		
Category	Current FY Objective Level	Proposed FY Objective Level
Federal		
State		
Program		
Other		

Evaluation Measures	Current FY Objective Level	Proposed FY Objective Level
1._____		
2._____		
3._____		
4._____		
5._____		

Prepared By_____

Date_____

Total Cost This Package_____

Change in Current Fiscal Year Positions_____

**Examples of objective levels could be identified as minimum, maintenance, improvement, optimum, etc.*

FIGURE 2

Flow Chart of Operations Alternatives
From Work (Cost) Center to Agency Level

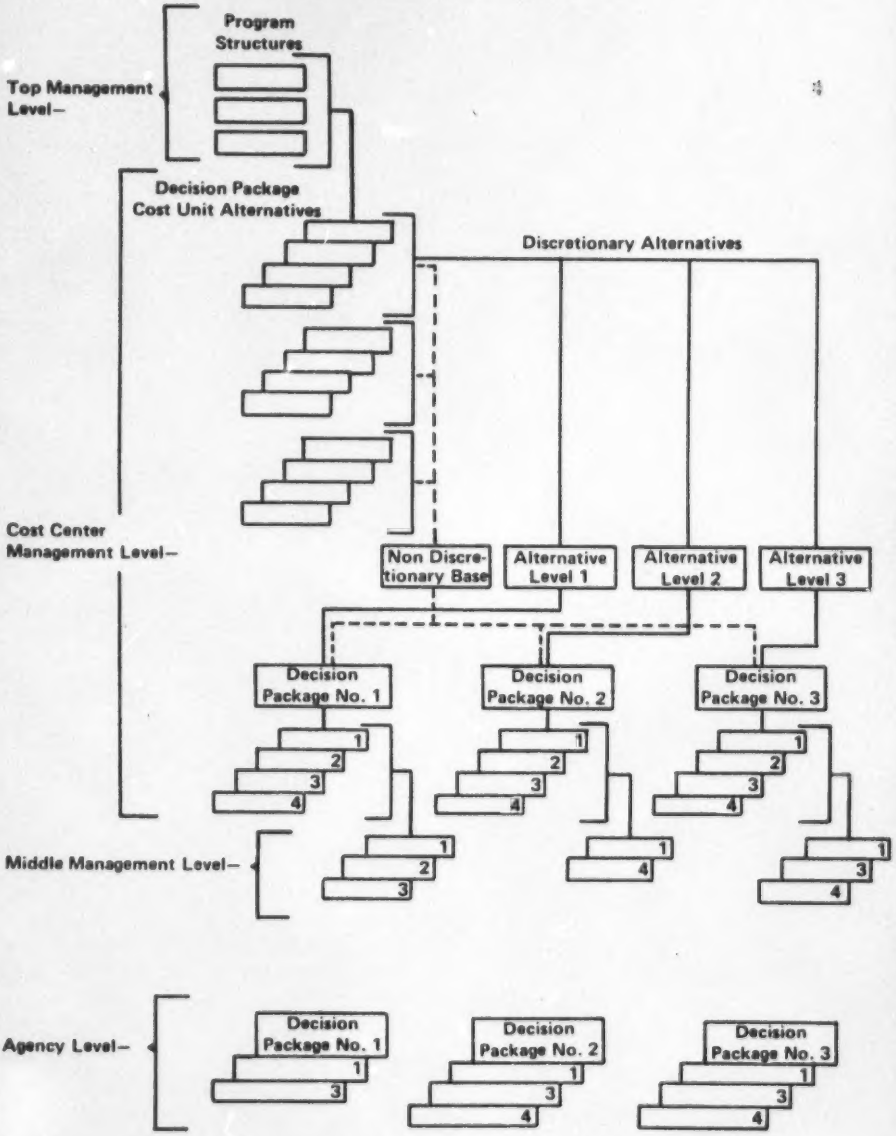

FIGURE 3

Illustration of Zero-Base Consolidation Form for Program, Subprogram, and Activity Components for Discretionary and Nondiscretionary Resource Allocation

Program Function	Prior Year Budgeted Expenditure	Current Fiscal Year Budgeting Proposal*				
		1	2	3	4	5
		Nondiscretionary Base Allocation	"____" Level	"____" Level	"____" Level	Total Cost—Nondiscretionary Plus Option
I. "XY" Program						
"X" Subprogram						
Activity 1	$100,000	$ 25,000	$ 25,000	($ 75,000)	$150,000	$100,000
Activity 2	100,000	50,000	25,000	40,000	(60,000)	110,000
Subtotal	$200,000	$ 75,000	$ 50,000	$115,000	$210,000	$210,000
"Y" Subprogram						
Activity 1	$150,000	$125,000	($ 40,000)	$ 75,000	$100,000	$165,000
Activity 2	50,000	10,000	18,000	(22,000)	30,000	32,000
Activity 3	100,000	15,000	50,000	75,000	(180,000)	195,000
Subtotal	$300,000	$150,000	$108,000	$172,000	$310,000	$392,000
Program Total	$500,000	$225,000	$158,000	$287,000	$520,000	$602,000
II. "AB" Program						
"A" Subprogram						
Activity 1	$300,000	$200,000	$ 50,000	($ 75,000)	$150,000	$275,000

*Circle option selected for implementation.

Recommendations

Officials who have reported on the use of the zero-base budgeting system to date are quick to point out that it should not be viewed as a panacea to overcome the shortcomings of other budget systems. Rather, it should be viewed as a management tool to make more effective decisions and to review spending against current needs and priorities. Keys to successful implementation of ZBB systems are reported to include:

1. Commitment and support from top management.
2. Adequate planning and design of the system.
3. Effective communication to and understanding of the plan by all management personnel.
4. Don't underestimate management's time requirement to carry out the system activities.
5. Effective coordination of the total budgeting system by top management.
6. Use the process every 3-5 years instead of annual cycles.
7. Provide feedback on decisions to middle and cost center managers.
8. Avoid doing complex analysis about relatively insignificant things.
9. Limit evaluation-performance data and information to the most critical elements.
10. Don't underestimate staff resistance to the process.
11. Maintain the quality of the information collected for analysis, monitoring, and evaluation.
12. Recognize the costs of the system and allow adequate time for payoffs for such increased costs.

Conclusion

Zero-base budgeting appears to have a considerable potential to improve decision making and control marginal costs. Interest in its use by the Congress, state legislators, and political leaders seems to be assured, and some advocate the marriage of ZBB with "sunset laws."

Zero-base budgeting technology will probably mean greater involvement of middle and lower management personnel at the operating level in the budget process. This also may mean that greater accountability can be fixed for the implementation of selected plans at the operating level.

Zero-base budgeting can be designed to build upon existing budget systems, especially PPBS. However, it is not likely to overcome the failures

of such systems. The ultimate question of whether zero-base budgeting will become a useful technique is still unanswered. However, its success may rest in large part on whether the accompanying technology is manageable.

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